

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
22 May 2003 (22.05.2003)

**PCT**

(10) International Publication Number  
**WO 03/042486 A3**

(51) International Patent Classification<sup>7</sup>: **E21B 43/10**

(21) International Application Number: **PCT/US02/36157**

(22) International Filing Date:  
12 November 2002 (12.11.2002)

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:  
60/338,996 12 November 2001 (12.11.2001) US  
60/339,013 12 November 2001 (12.11.2001) US  
60/363,829 13 March 2002 (13.03.2002) US  
60/387,961 12 June 2002 (12.06.2002) US

(71) Applicant (for all designated States except US): **ENVEN-  
TURE GLOBAL TECHNOLOGY [US/US];** 16200 A.  
Park Row, Houston, TX 77084 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **RING, Lev**  
[RU/US]; 14126 Heatherhill Place, Houston, TX 77077  
(US). **WATSON, Brock** [US/US]; 2535 Marsh Lane  
#1004, Carrollton, TX 75006 (US). **WADDELL, Kevin,**

**K.** [US/US]; 11007 Sprucedale Court, Houston, TX 77070  
(US). **BRISCO, David, Paul** [US/US]; 405 Westridge  
Drive, Duncan, OK 73533 (US).

(74) Agents: **MATTINGLY, Todd et al.**; Haynes and Boone,  
LLP, Suite 4300, 1000 Louisiana Street, Houston, TX  
77002-5012 (US).

(81) Designated States (national): AE, AG, AI, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GI,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,  
SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,  
ZW.

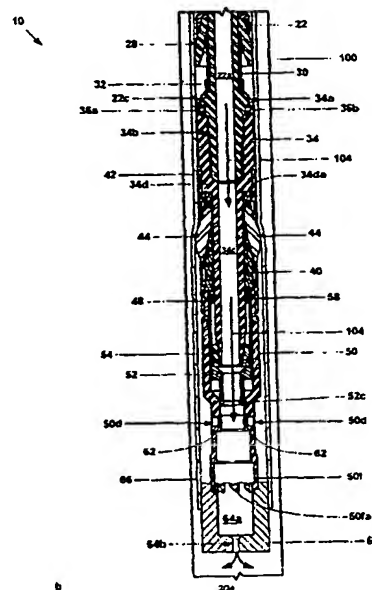
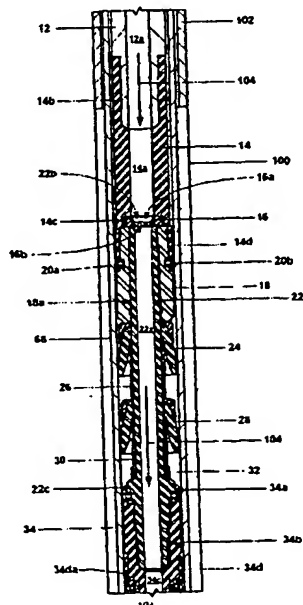
(84) Designated States (regional): ARIPO patent (GI, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK,  
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

... of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: **COLLAPSIBLE EXPANSION CONE**



(57) Abstract: An apparatus (10) for radially expanding and plastically deforming an expandable tubular member (66) includes a collapsible cone (44).

**WO 03/042486 A3**

WO 03/042486 A3



**Published:**

*with international search report  
before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(88) Date of publication of the international search report:**

27 November 2003

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/36157

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : E21B 43/10

US CL : 166/207,217,382

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 166/121,207,212,216,217,382,387

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST: (expan\$4 with (tub\$5 pip\$3 casing\$1 conduit\$1)), (expander\$1 or (expan\$4 with cone\$1))

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3,691,624 A (KINLEY) 19 September 1972 (19.09.1972), see entire document, especially Figs. 1-3 and cols. 3-4.	20, 23
A	US 3,631,926 A (YOUNG) 04 January 1972 (04.01.1972), see entire document, especially Fig. 1.	24-27

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone.
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

02 January 2003 (02.01.2003)

Date of mailing of the international search report

29 SEP 2003

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Zahira N. Walker

Telephone No. (703) 308-2168